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PUBLICATIONS WITH ABSTRACTS OF THE
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A limited number of the reprints of the publications are available. Those not available are marked with an asterisk (*).

RUTIN IN GREEN ASPARAGUS. Floyd DeEds and James F. Couch. Food Res. 13(5): 378-380, September-October, 1948. A yellow deposit which is sometimes observed in glass jars of home-canned asparagus has been considered to be a derivative of the flavone series. The present report substantiates this and shows that the deposit is rutin, a flavonol glycoside. The material from asparagus was compared with rutin obtained from buckwheat. Pharmacologically, both products prolong the action of epinephrine on intestinal strips and both stimulate the excised frog heart. Crystallographic and spectrophotometric data likewise indicate identity of the two products.

THE IN VITRO PROTECTION OF EPINEPHRINE BY FLAVONOIDS. Robert H. Wilson and Floyd DeEds. Jour. Pharm. & Exper. Therap. 95(3): 399-406, March, 1949. The following conclusions may be justified: (1) A glycosidal linkage on the C-3 position does not modify activity; (2) A glycosidal linkage on C-7 increases, while methoxylation of this group decreases, activity; (3) A double bond between C-2 and C-3 increases activity; (4) Two free hydroxyl groups, ortho to each other, on the phenyl ring also increase activity.

*INFLUENCE OF ORALLY ADMINISTERED RUTIN ON ADRENAL ASCORBIC ACID STORAGE IN GUINEA PIGS. Anthony M. Ambrose and Floyd DeEds. Fed. Proc. 8(1): 271, March, 1949. Results indicate that rutin appears to play no important role as an "economizing factor" in the storage of adrenal ascorbic acid under the conditions of our experiments. Smaller doses of ascorbic acid, 1 mgm. or 0.5 mgm. per day, clearly demonstrate that as the dose of ascorbic acid is lowered there is an accompanying lowering of the amount of adrenal ascorbic acid stored irrespective of rutin.

TOXICITY OF THIOACETAMIDE IN RATS. Anthony M. Ambrose, Floyd DeEds, and Lelland J. Rather. Jour. Ind. Hyg. & Toxicol. 31(3): 158-161, May, 1949. Thioacetamide administered orally in doses of 100 mgm./kgm. or less was found to be non-toxic, while doses of 200 mgm./kgm. or more were invariably fatal. Rats maintained on the basic diet containing 0.032% thioacetamide, or less, for approximately 190 days, showed no toxic effects, as determined by growth rate. However, cirrhosis of the liver occurred in rats on the diet containing 0.032% thioacetamide while the tissues of rats receiving lower concentrations showed no histological changes of significance.

THE VALUE OF RUTIN AND QUERCETIN IN SCURVY. Anthony M. Ambrose and Floyd DeEds. Jour. Nutrition 38(3): 305-17, July, 1949. The oral administration of subminimum amounts of l-ascorbic acid (0.2 mg./animal/day) in conjunction with 100 mg. rutin/animal/day, definitely prolonged life of guinea pigs. The scorbutic symptoms were less severe in guinea pigs receiving combined supplements of l-ascorbic acid and rutin or quercetin than in animals receiving l-ascorbic acid alone.

ABSORPTION OF SUBTILIN IN THE RABBIT. Robert H. Wilson, E. M. Humphreys, D. M. Reynolds, and J. C. Lewis. Proc. Soc. Exper. Biol. & Med. 71: 700-705, August, 1949. The antibiotic, subtilin, has been administered to rabbits in a variety of ways, with analysis of the blood to determine absorption. The bioassay procedures are described. Due to precipitation in physiological fluids, injection into subcutaneous tissue, muscle or peritoneal cavity is an ineffective way of reaching bacteriostatic levels of subtilin in the blood stream. Administration by mouth or per rectum is likewise unsatisfactory. A single injection intravenously is accompanied by some danger and gives a blood level of subtilin which is not maintained. A satisfactory level can be maintained, at least for 4 hours, by slow intravenous infusion, without apparent harm to the animal. A subtilin-pectin complex, which temporarily allows more subtilin to be soluble in physiological saline, a methyl ester of subtilin which is likewise more soluble and which possesses greater antibiotic activity and a second methyl ester which is much more soluble are all absorbed in amounts similar to that of unmodified subtilin.

FURTHER OBSERVATIONS ON THE EFFECT OF RUTIN AND RELATED COMPOUNDS ON CUTANEOUS CAPILLARIES. Anthony M. Ambrose and Floyd DeEds. Jour. Pharm. & Exper. Therap. 97(1): 115-119, September, 1949. Quercitrin, methyl hesperidin chalcone, and sodium hesperidin chalcone in suitable doses are as effective as rutin in delaying the appearance of intravenously administered trypan blue into newly formed chloroform wheals.

PHENOTHIAZINE DERIVATIVES: MONO-OXYGENATED COMPOUNDS. David F. Houston, E. B. Kester, and Floyd DeEds. Jour. Amer. Chem. Soc. 71(11): 3816-3818, November, 1949. A series of simple alkyl ethers (isopropyl, octyl, dodecyl, and hexadecyl) of phenothiazine-3 prepared by sulfur fusion of corresponding alkoxy-diphenylamines, is described. Spectral absorption data, analyses, and melting points are recorded.

PHENOTHIAZINE DERIVATIVES: DIOXYGENATED COMPOUNDS. David F. Houston, E. B. Kester, and Floyd DeEds. Jour. Amer. Chem. Soc. 71(11): 3819-3822, November, 1949. An improved preparation of thionol is described. Alkyl ethers, including ethyl, n-amyl, octyl, dodecyl, and hexadecyl ethers, are made by treating the silver salt of the parent substance with appropriate alkyl iodides. Spectral absorption data and other physical properties of the compounds are recorded. The compounds have improved lipid solubility over thionol and retain its oxidation-reduction characteristics.

IMPORTANCE OF DIET IN CHRONIC TOXICITY STUDIES. Robert H. Wilson and Floyd DeEds. Arch. Ind. Hyg. & Occupat. Med. 1(1): 73-80, January, 1950. The results were: (1) Diet A greatly increased the toxicity of cadmium; (2) It slightly increased the toxicity of 2-acetaminofluorene;

(3) Diets A and B were equal from the standpoint of toxicity of thiourea; acute as well as chronic toxicity of this compound was studied; (4) Diet B increased the toxicity of xylose. In this case, a third diet gave still another answer. Variations such as these make it difficult to decide how to conduct investigations on chronic toxicity.

THE SIGNIFICANCE OF CHRONIC TOXICITY STUDIES. Floyd DeEds. Food Tech. 4(2): 40-42, February, 1950. Pesticidal compounds may produce acute or chronic poisoning. The symptoms and mode of action in these two forms of toxicity are not necessarily the same and are frequently different. The data from acute toxicity studies may therefore be of little value in predicting the dosage, symptoms, mechanism of action or proper antidotal measures in chronic poisoning.

EFFECT OF RUTIN AND RELATED COMPOUNDS ON EXPERIMENTAL FROSTBITE IN RABBITS. Anthony M. Ambrose, Dorothy J. Robbins, and Floyd DeEds. Fed. Proc. 9(1): 254, March, 1950. Flavonols rutin, quercitrin, quercetin, methyl hesperidin chalcone, 2-3-dihydroquercetin, and an extract from muscat raisin seeds, all appeared to offer some degree of protection on experimental frostbite in rabbits.

TOXICITY STUDIES ON TOMATINE. Robert H. Wilson, George W. Poley, and Floyd DeEds. Fed. Proc. 9(1): 325, March, 1950. Tomatine, an antifungal substance, has potential medicinal and food use. Toxicity and pharmacological studies are therefore important. Diets containing 0.04% of tomatine were fed to rats for 200 days without ill effect. Two hundred mg./kg. daily by mouth for five days was tolerated by rats, although a single dose of 800 mg./kg. was fatal. Intravenous injection of 1-2 mg./kg. causes marked drop in blood pressure, and sudden death with slightly higher doses.

FURTHER STUDIES ON THE TOXICITY OF THIOACETAMIDE IN RATS. Anthony M. Ambrose, Floyd DeEds, and Leland J. Rather. Proc. Soc. Exper. Biol. & Med. 74(1): 132-134, May, 1950. Scarring and nodular hyperplasia of the liver were produced in rats maintained on an otherwise adequate diet containing 0.032% thioacetamide (TA). Histological changes in the liver were observed within 30 days which became progressively worse after 60 and 120 days. No spontaneous regression in the amount of liver damage was observed in rats on 0.032% TA for 120 days and later on the basic diet for 120 days. Administration of lipotropic factors (choline, dl-methionine, and casein) in conjunction with 0.032% TA significantly decreased liver weight. Fibrosis and various degrees of parenchymal lesions were observed in all rats on 0.032% TA with and without the lipotropic factors. It cannot be said that any of the lipotropic factors studied were effective in preventing liver damage, although there appears to have been a quantitative alteration in the character of the lesions.

